



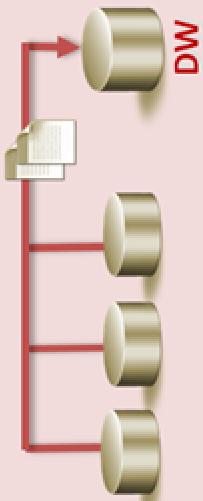
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**Data Integration**

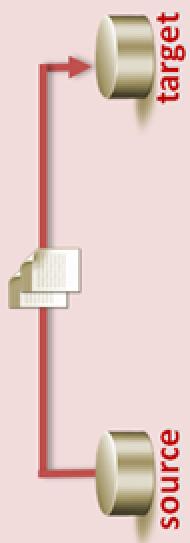
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# Data Integration

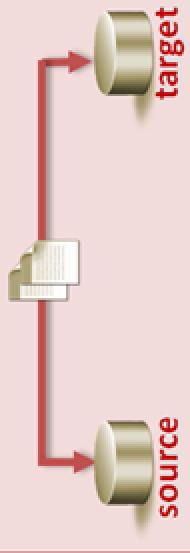
1. Data Transformation (Aggregation)



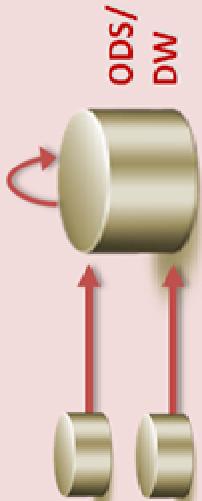
2. CDC: One Way, Incremental



3. CDC: Two Way, Synchronization



4. Real Time Integration (Replication)



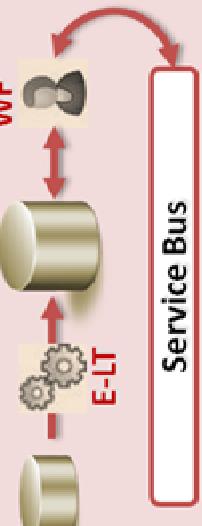
5. Data as Service



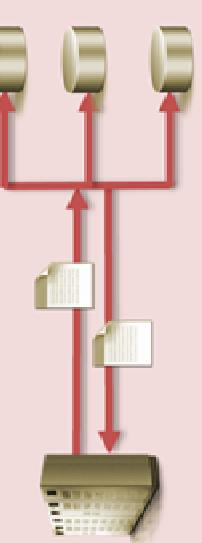
6. Data Event Services



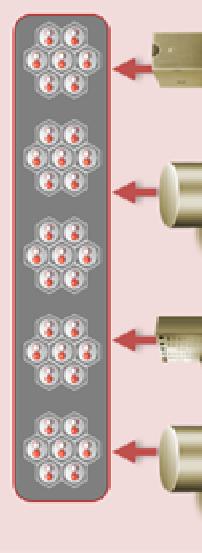
7. Data Quality



8. Federated Query



9. Data Virtualization



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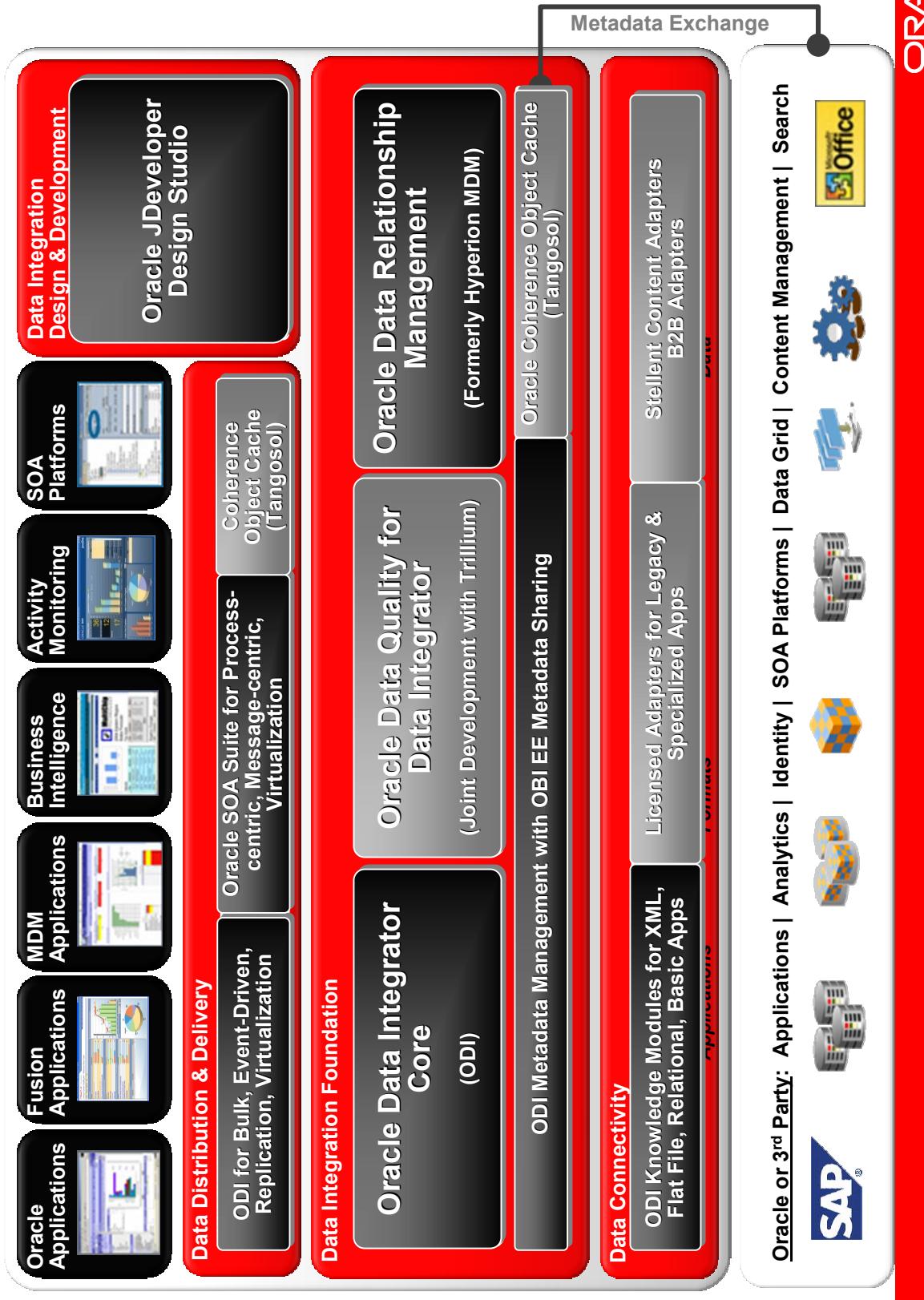
# Oracle Data Integration Suite

## Comprehensive Data Integration Platform for the Enterprise



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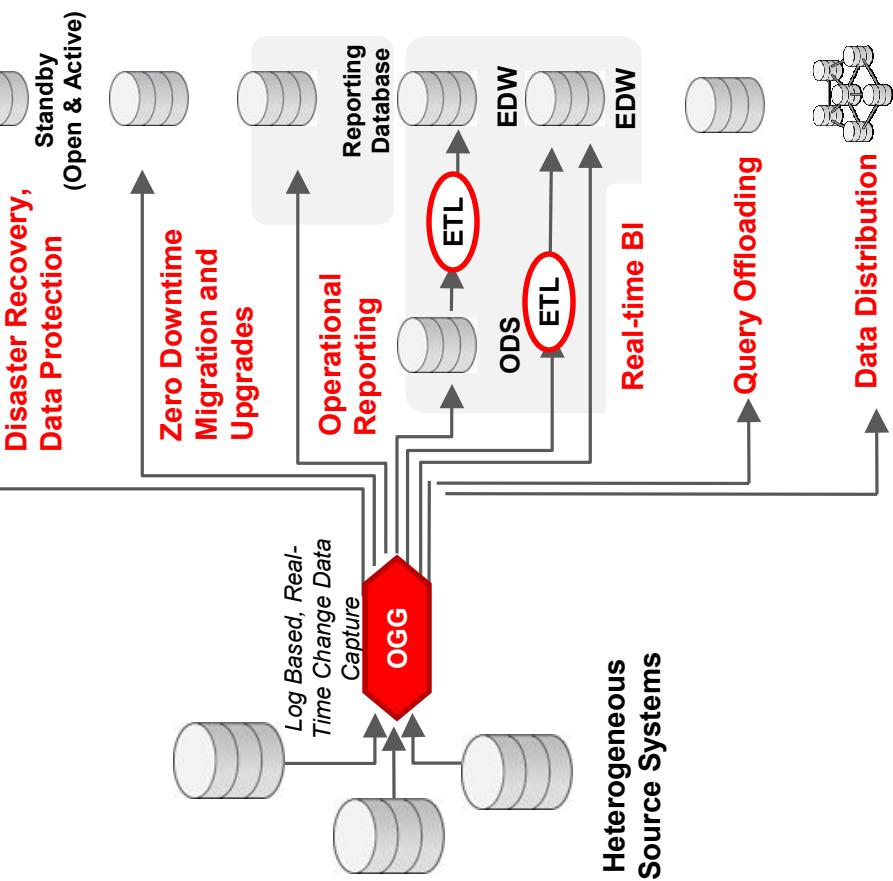
# Oracle Data Integration Component View



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# Oracle GoldenGate

Enterprise-wide Solution for Real Time Data Needs



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# Key Plays for Oracle GoldenGate

## Query Offloading

- **Cost Reduction**  
Move reads to lower cost systems
- **Resource Utilization**  
Use physical standby for reads

## Continuous Availability

- **Zero Downtime Migration & Upgrade**  
Migrate to Oracle DB or upgrade to latest application version with no downtime

## Real Time Data Integration

- **Operational Reporting**  
Quickly report on transaction system data with no source impact
- **Real Time Business Intelligence**  
Understand current metrics in historical context

- **Disaster Recovery & Data Protection**  
Create live standby for failover, avoid and repair block corruptions
- **Data Distribution**  
Synchronize hub & spoke or distributed systems

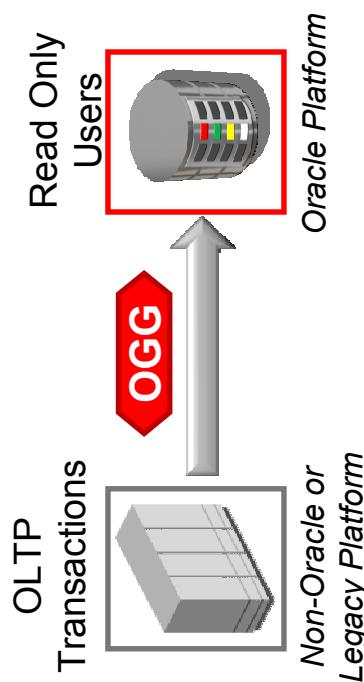
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# Query Offloading – Cost Reduction

## How it Works & Examples

### Query Offloading

#### Cost Reduction



#### Solution:

- Create a real-time replica of existing expensive operational system (e.g. legacy or big iron) on Oracle with RAC on Linux.

- Sync replica in real-time and route all read-only traffic

#### Benefits:

- Reduce/Eliminate query load on transactional system
- Directly reduce cost of legacy, mainframe, non-oracle

#### Differentiator:

- Oracle GoldenGate supports heterogeneous database, hardware and OS platforms

#### Qualifier:

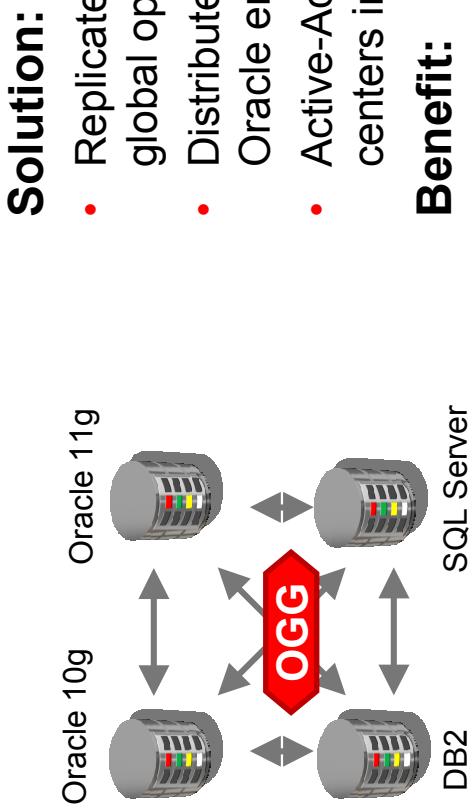
*“Do you want to move query processing to standard, lower cost DB & Hardware infrastructure with no disruption to critical transaction processing systems & satisfy business end-users as data volumes and users grow?”*

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# Continuous Availability

## Data Distribution / Synchronization

Continuous Availability



### Solution:

- Replicate data for distributed applications to drive global operations and improve operational efficiency
- Distribute data in real-time across Oracle and Non-Oracle environments
- Active-Active configuration keeps multiple data centers in sync

### Benefit:

- High Availability for mission critical data
- Ability to scale, handle large & growing data volumes
- Access to consistent data across geographically dispersed data centers

### Qualifier:

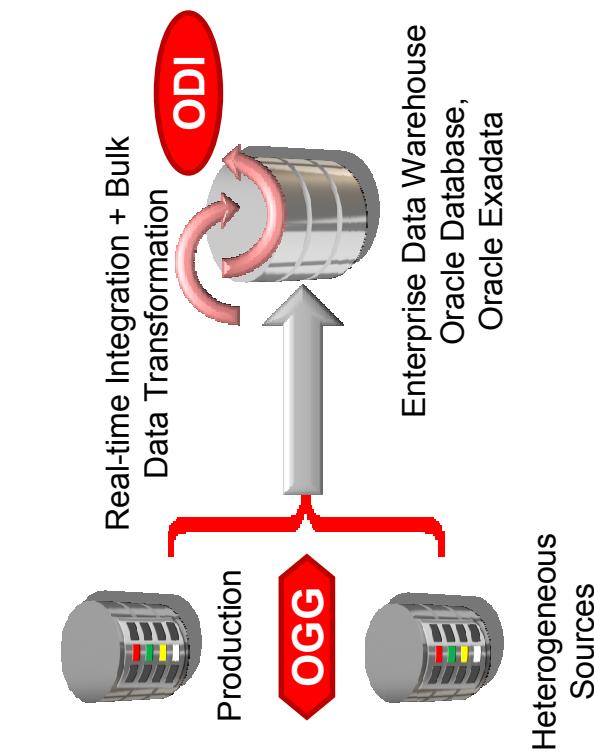
*"How does your data keep up with the demands of your 24x7 global business. Can all business units access the same, up-to-date information at any time, continuously?"*

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# Real-Time Data Integration

Enables Real-time BI

## Real Time Data Integration



### Solution:

- Populate an operational data store for operational BI with real-time data
- Run ELT from the ODS to load data warehouse with transformed data

### Benefit:

- Improves business insight
- Combines intelligence on current business status with historical context
- Eliminates load on source systems
- Reduces latencies and batch windows

### Qualifier:

*“Do you need better business insight with the most current data and no impact to your critical systems?”*

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# Oracle GoldenGate Technology Differentiators

*Oracle GoldenGate provides **low-impact** capture, routing, transformation, and delivery of **database transactions** across **heterogeneous environments** in **real-time***

## Key Differentiators:

**Performance**

Non-intrusive, Low Impact, Sub-second latency

**Extensible & Flexible**

Open, modular architecture - Heterogeneous sources & Targets

**Reliable**

Maintains Transactional Integrity - Resilient against interruptions and failures

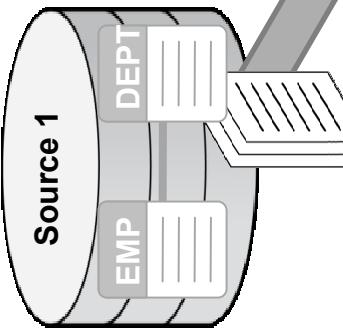
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# Oracle Real Time Data Integration

Oracle's Unique Offering for Real Time Business Intelligence

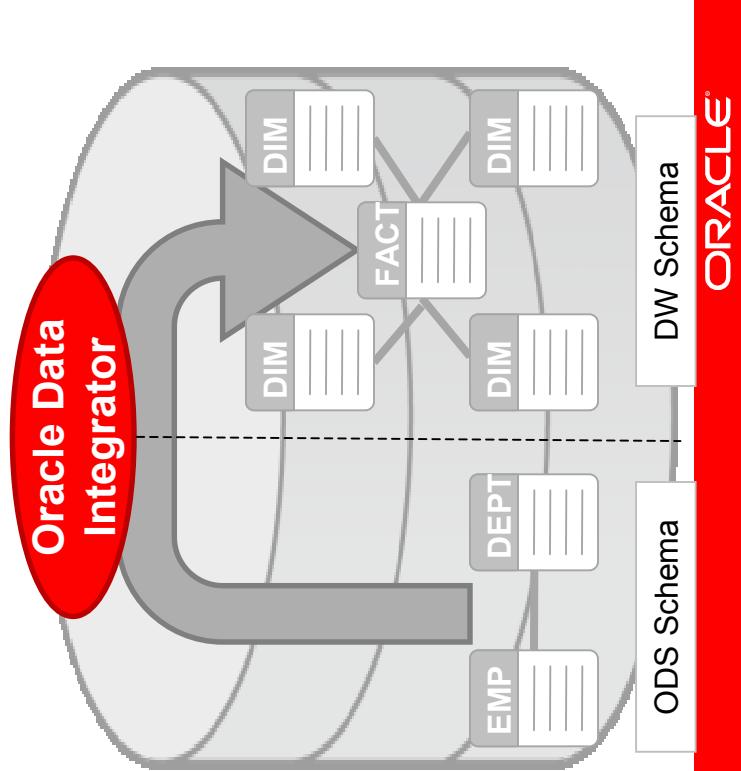
## 1 Oracle GoldenGate

- Real time extracts from transactional systems
  - Non-invasive on sources
- Continuous streaming load into ODS Schema of target
  - Latency in seconds



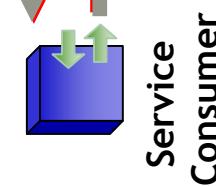
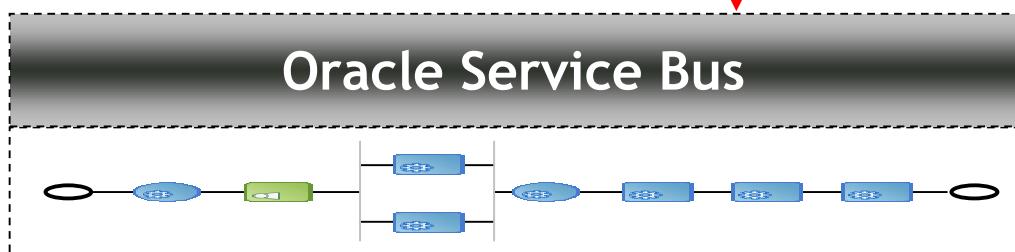
## 2 Oracle Data Integrator EE

- High Performance 'E-LT' on target data warehouse
  - Periodic mini-batches (15 min)
  - Transform in the Database
  - Never go back to sources



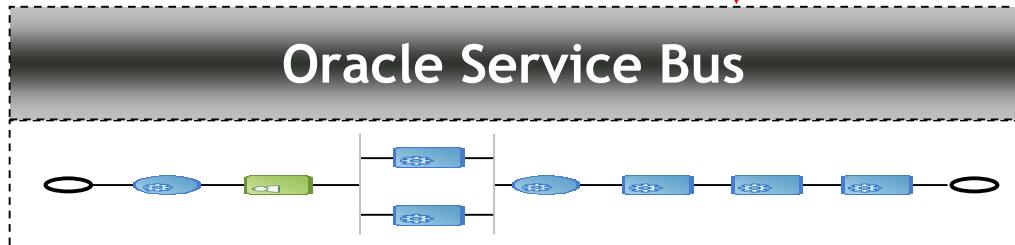
# Oracle Service Bus

Scaling Application Infrastructure

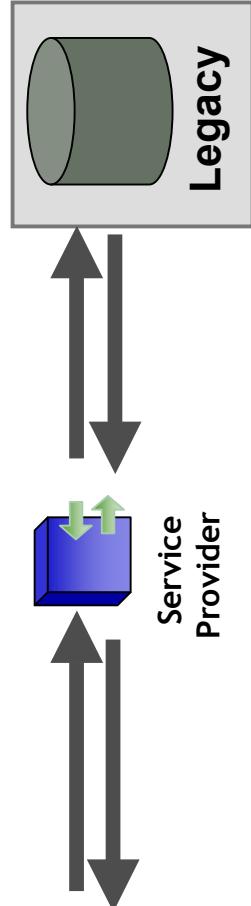


Service  
Consumer

Process Flow /  
Orchestration

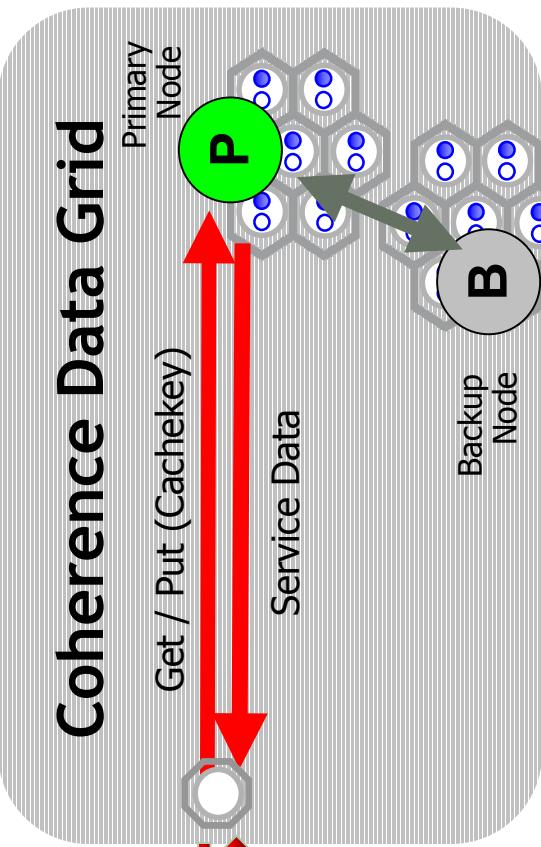


Oracle Service Bus

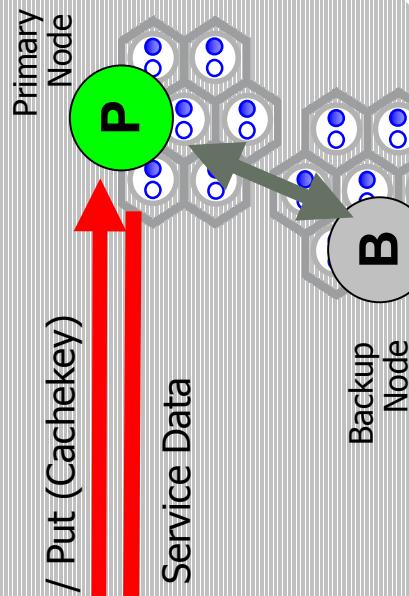


Side Cache Pattern

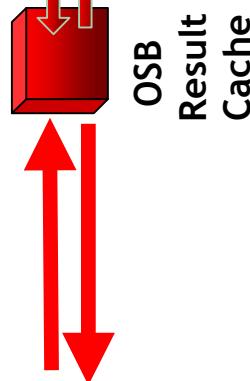
If results not in cache, invoke  
service & cache results



Coherence Data Grid



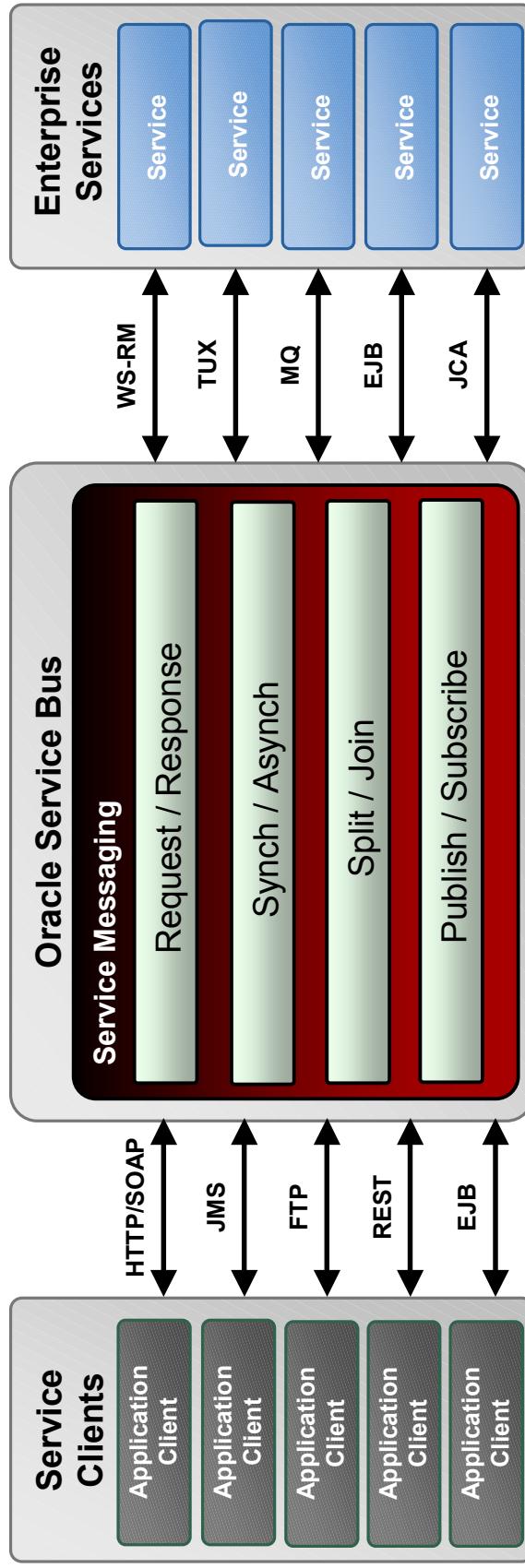
Check cache



OSB  
Result  
Cache

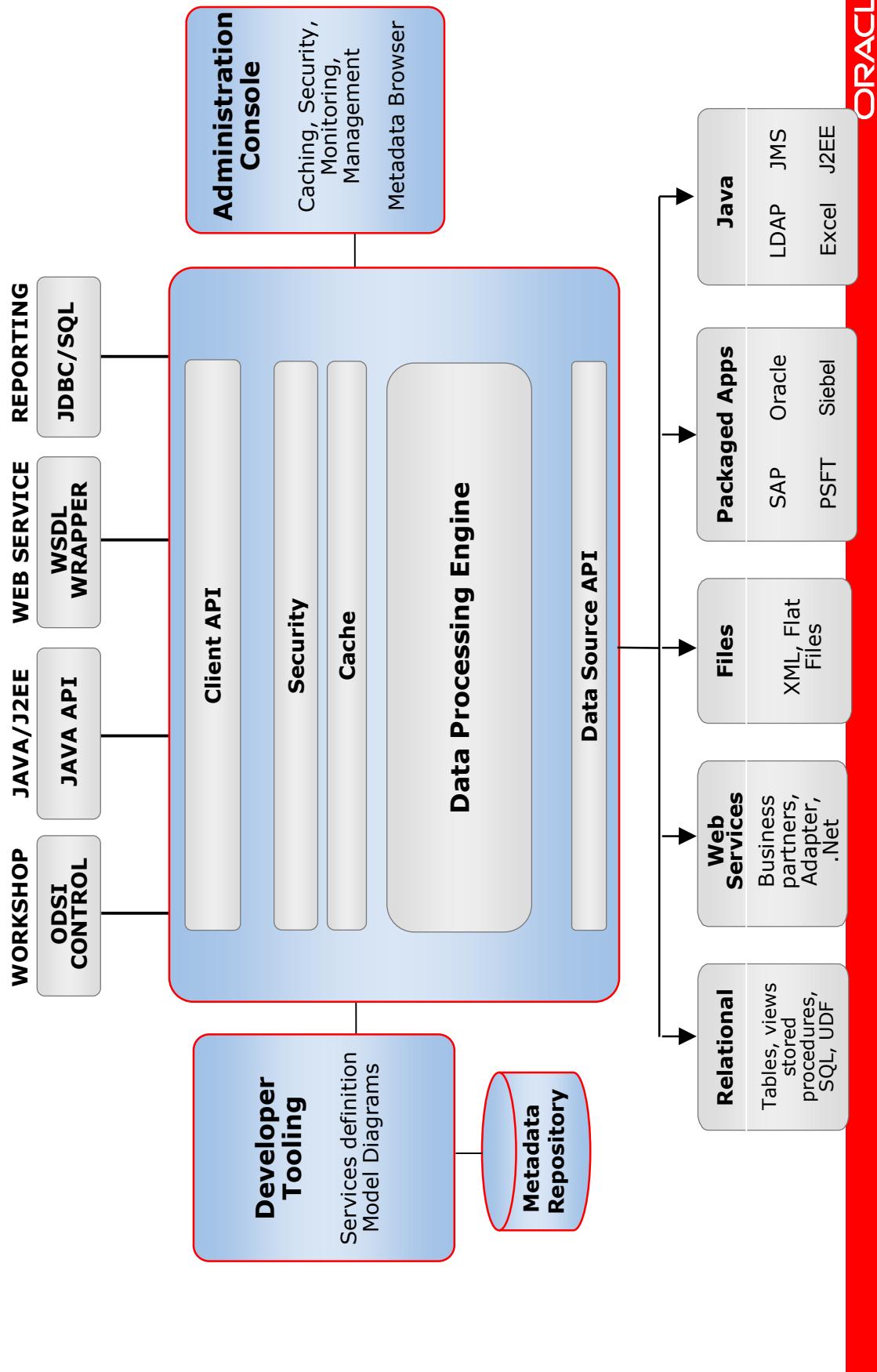
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# Adaptive Connectivity In a Nutshell...



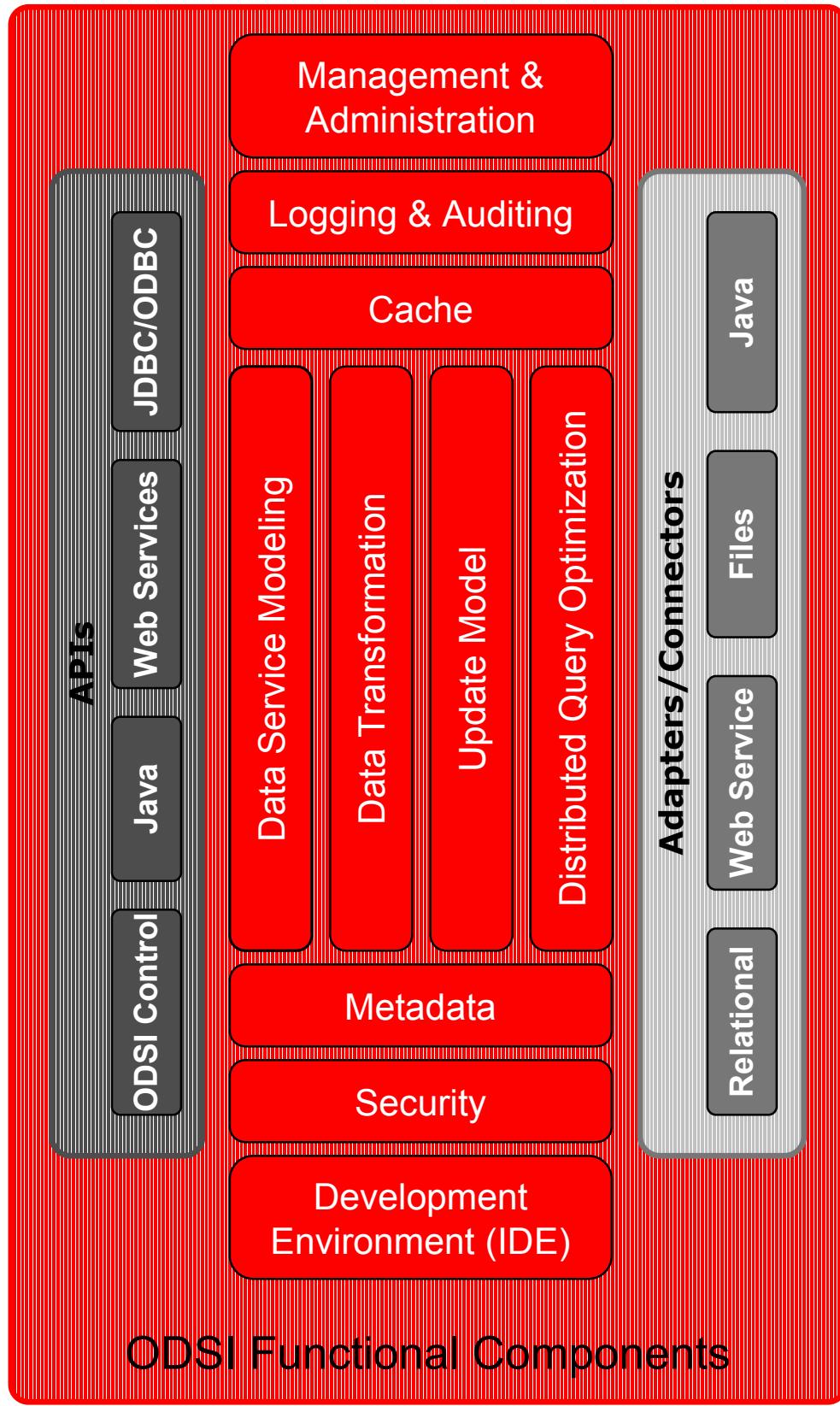
- Any to Any Protocol
- Any to Any Payload
  - XML
  - non-XML
  - Binary
- No WSDL Required
- Multiple communications paradigms
  - Request/response
  - Synchronous and asynchronous
  - One-to-many, many-to-one
  - Pub-sub
  - Mix-and-match (e.g. sync-to-async)

# Oracle Data Service Integrator



# Oracle Data Service Integrator

## Functional Components

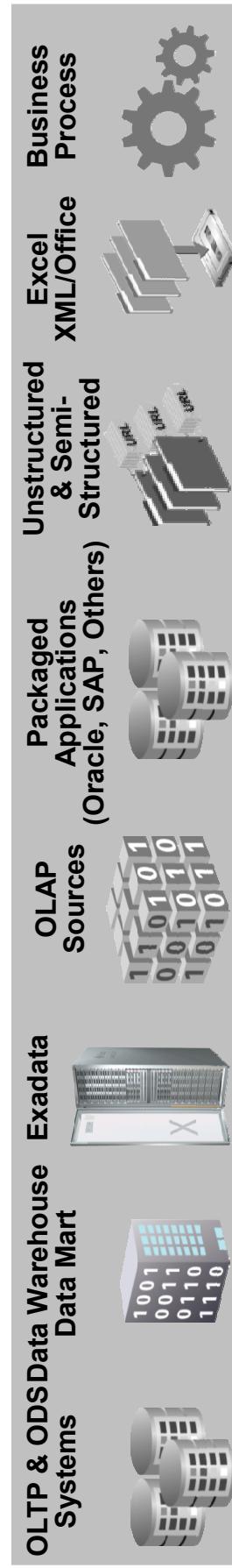


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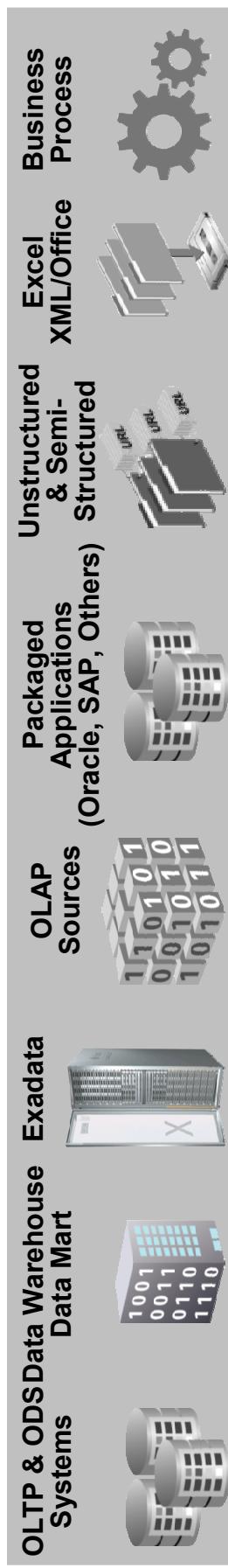
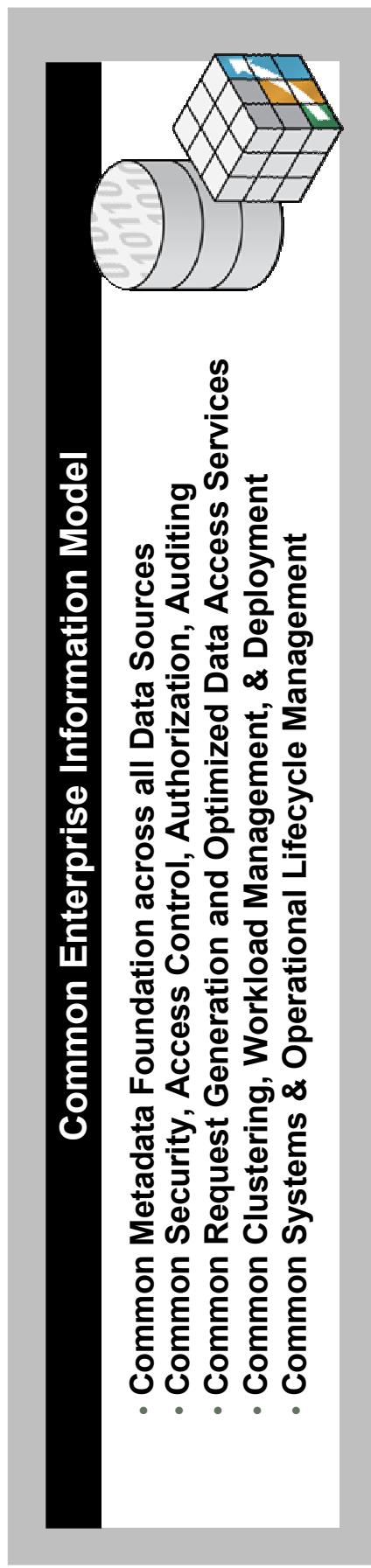
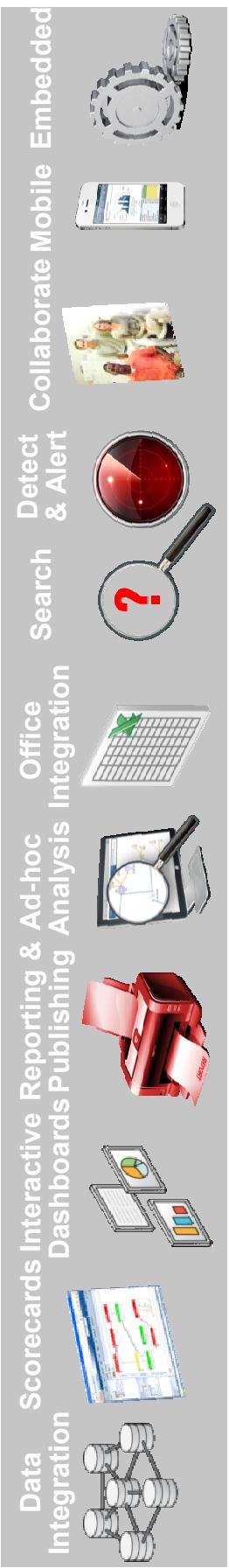
# Oracle Business Intelligence 11g



## Enterprise Analytic Foundation

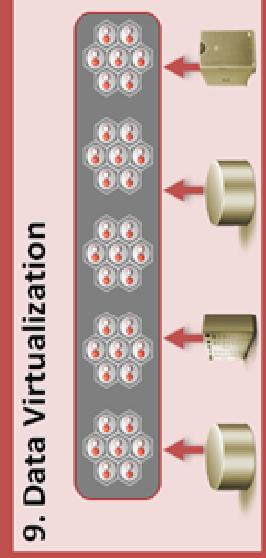
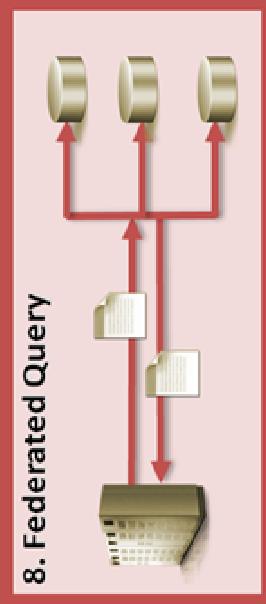
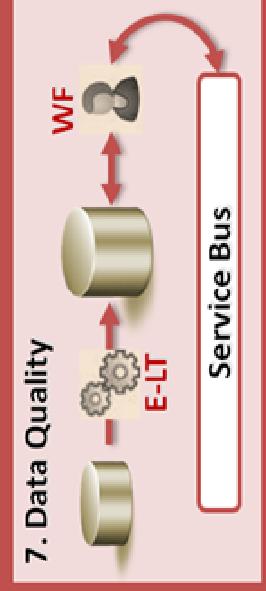
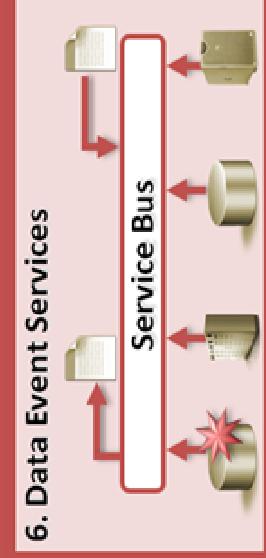
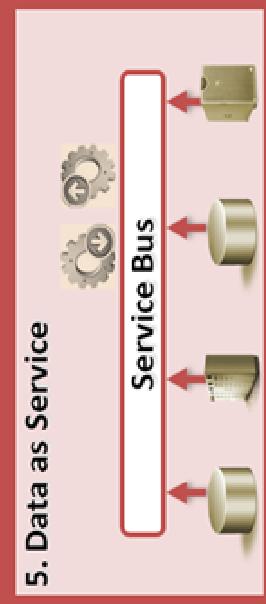
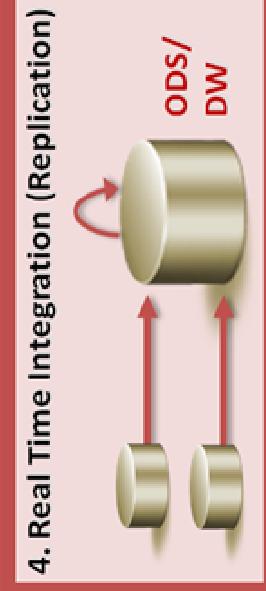
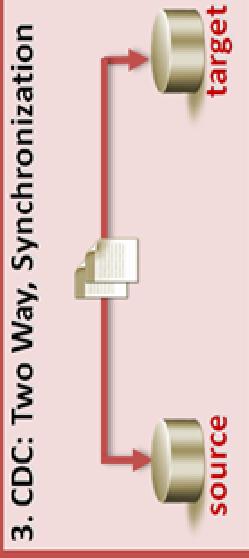
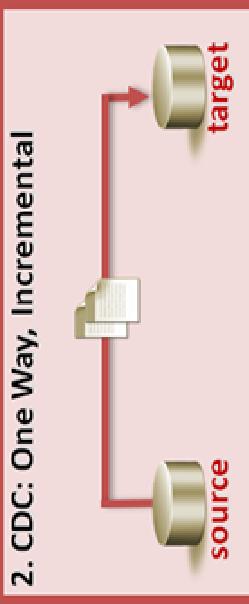
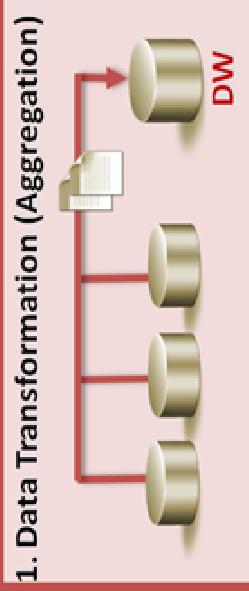


# Oracle Business Intelligence 11g



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# Data Integration



## • Oracle Data Integration Suite (ODI)

- Oracle Data Service Integrator (ODSI)
- Oracle Business Intelligence Suite (OBI Suite)

## • Oracle Golden Gate (OGG)

- Oracle Service Bus (OSB)

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